

Nurturing Nature: De-risking Nature-based Finance in Asia

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Glossary

Nature-based Solutions (NbS) are actions to protect, conserve, restore, sustainably use, and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems which address social, economic, and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services, resilience, and biodiversity benefits¹.

Landscape and Jurisdictional Approach is a multi-stakeholder collaborative strategy to advance shared sustainability goals and build resilience at a landscape scale. A jurisdictional approach is a landscape approach defined by administrative boundaries and with high-level government involvement¹.

A landscape is a geographic area with common and interacting ecological and socioeconomic characteristics. They may be delineated based on river basins, seascapes, ecosystems, jurisdictional boundaries, or other ways².

Landscape and Jurisdictional Initiatives refer to on-the-ground collaborative programs to set common goals, take collective action while reconciling different interests, and monitor progress towards improving social, environmental, and economic outcomes at a landscape or jurisdictional scale¹.

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1. https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC_2016_RES_069_EN.pdf
2. 2023 CDP Questionnaire Guidance

Introduction

Asia, the largest continent in the world, is incredibly biodiverse. It is home to 18% of global forests, which are crucial in supporting the ecosystem services essential to the continent's economic well-being. However, biodiversity loss poses a significant threat, potentially disrupting nature-reliant economies in low-income countries and jeopardizing up to two-thirds of Asia's GDP.³

The degradation of critical ecosystems, such as mangroves, seagrass beds, and coral reefs would have a cascading effect on value chains heavily dependent on natural resources. Such degradation can negatively impact pollinators, for example, which in turn could directly impact annual crop production valued between US\$235 billion and US\$577 billion⁴. Meanwhile, these ecosystems also offer a cost-effective solution for achieving climate targets. They hold the potential to contribute one-third of global greenhouse gas emissions reductions with an investment of US\$8 trillion by 2050,⁵ highlighting the role of Nature-based Solutions (NbS).

Financing NbS requires a significant increase in private-sector participation. Currently, public funding dominates nature-based financing, with an estimated annual allocation of US\$165 billion, representing 82% of total NbS financing in 2022⁶. While this public contribution is commendable, it falls short of the estimated US\$737 billion required per year to achieve global climate and biodiversity targets by 2050⁷. This funding gap is exacerbated by the overwhelming flow of private capital—a staggering US\$5 trillion—into environmentally harmful sectors ('nature-negative finance'), representing a 140-fold disparity compared to private investments in NbS⁸. To bridge this substantial funding gap, there is immense need and potential for the private sector, including financial institutions, to both realign nature-negative finance flows and mobilize capital toward NbS.

Asia's ambitious restoration targets are expected to drive a significant increase in annual financing needs. Developing and emerging economies, such as China and India, with large-scale tree planting and forest expansion goals, account for the highest cumulative investment needs, reaching US\$1,037 trillion by 2030⁹.

This report explores the state of play of financial institutions' actions in catalysing innovative financing instruments in NbS, with a focus on land-related interventions in Asia. Utilizing a combination of desk research and stakeholder interviews, the report:

- (a) provides insight into challenges to significantly increase nature-based financing;
- (b) highlights examples of de-risking instruments across types of financial institutions; and
- (c) recommends corresponding calls to action for financial institutions to bridge the funding gap for NbS.

Executive Summary

Asia's rich biodiversity is under threat, yet it offers immense potential for developing NbS to combat climate change and drive economic growth. While these solutions are promising, significant challenges hinder their implementation, particularly in securing adequate financing. Public funds dominate, but private capital still flows heavily towards environmentally damaging sectors. To bridge the financing gap and achieve ambitious restoration goals, financial institutions need to realign investments to both tackle financing of activities that harm nature and support investments toward NbS.

Despite clear needs for NbS, several challenges impede their widespread adoption, including with:

- 1** Quantifying and validating benefits, such as improved ecosystem services
- 2** Navigating complex legal issues surrounding land rights as well as lack of regionally binding policies
- 3** Reaching commercial viability and attracting private capital, considering small investment sizes and long payback periods

Another challenge is that many Asian financial institutions have yet to assess their exposure to nature-related risks. Such portfolio assessment is a critical first step for the sector to understand its nature-related dependencies, impacts, risks, and opportunities (DIROs), to then make informed decisions. By doing so, financial institutions can work toward implementing policies and due diligence processes to manage identified risks as well as shift capital toward opportunities and solutions that contribute to a nature positive future. Notably, developing innovative financing instruments and services that help companies integrate landscape considerations into their strategies and support landscape initiatives is important to accelerate adoption of high-quality NbS.

3. <https://www.weforum.org/agenda/2021/09/how-to-address-asia-pacific-s-biodiversity-crisis-and-encourage-nature-positive-growth/>

4. <https://documents1.worldbank.org/curated/en/927121625066013258/pdf/Unlocking-Nature-Smart-Development-An-Approach-Paper-on-Biodiversity-and-Ecosystem-Services.pdf>

5. <https://www.unep.org/resources/state-finance-nature-2021>

6. UNEP (2023). State of Finance for Nature: The Big Nature Turnaround – Repurposing \$7 trillion to combat nature loss. Summary for Decision-makers. Nairobi. <https://doi.org/10.59117/20.500.11822/44278>

7. *ibid*

8. *ibid*

9. *ibid*

In summary, financial institutions should:

1 Assess Portfolio Risk

Use CDP data as well as other tools to assess portfolios for exposure to nature-related dependencies, impacts, risks, and opportunities and develop risk management frameworks.

2 Update Internal Policies

Implement robust due diligence and exclusion policies to protect nature (e.g., avoiding financing activities in protected areas, avoiding financing activities linked to deforestation).

3 Set Financing Targets for Nature

Establish time-bound goals for supporting nature conservation, benchmarking against industry leaders.

4 Leverage Existing Instruments

Explore existing products e.g. sustainability-linked loans and collaborate with specialists to unlock NbS financing.

5 Design Blended Finance Blueprints

Create blended finance strategies (e.g., with development finance institutions) to de-risk projects utilizing concessional and public funds.

6 Strengthen Policy Alignment

Engage with governments and civil society to understand regulations, including the EU Deforestation Regulation, and align with the Global Biodiversity Framework.

Challenges in Nature-based Financing

Key challenges to implementing nature-based solutions and landscape initiatives in Asia were identified through desk research and semi-structured interviews with senior management personnel from impact investing firms, a multilateral development bank, agricultural companies, and NGOs. Figure 1 summarizes these challenges.

Figure 1. Challenges in implementing and financing nature-based initiatives

Challenge Categories	Detail of Challenges
<p style="text-align: center;">Impact measurement</p>	<ul style="list-style-type: none"> ▶ While NbS deliver public goods, such as air purification and water filtration, these benefits are difficult to quantify and monetize¹⁰, unlike benefits such as ecotourism or carbon sequestration. The difficulty in quantifying the value of NbS can contribute to concerns over project continuity and greenwashing, and make it challenging to attract investors who demand measurable returns. ▶ Despite the development of valuation methods, such as natural capital accounting and ecosystem services valuation, large financial institutions, such as pension funds, remain hesitant to adopt them¹¹. Traditional valuation methods struggle to accurately capture the value of natural ecosystems, leading to underestimating the overall benefits of NbS¹². ▶ Successful implementation of NbS relies heavily on stakeholders having a thorough understanding of the complexities of natural ecosystems and the ability to assess project feasibility. However, the absence of systematically accessible knowledge and lack of available case studies impedes broader adoption by policymakers and society¹³. This is coupled with incomplete information access and accuracy that may occur due to underdeveloped district governance.
<p style="text-align: center;">Financial</p>	<ul style="list-style-type: none"> ▶ High due diligence costs due to varied environmental and regulatory conditions hinder the direct transfer of successful practices¹⁴. Project implementation also demands cooperation between various stake holders (such as smallholder farmers and government bodies). This complex web of actors, coupled with bureaucratic challenges inflates transaction costs. ▶ NbS projects often rely on philanthropic and development funds and struggle to reach commercial viability. ▶ Primary revenue for nature-related investments stems from forest commodities (55%) and carbon credits (31%)¹⁵, which limits the availability of bankable projects. The lack of replicable business models may hamper private sector engagement and investment in large-scale impact. ▶ Small ticket sizes make it difficult to attract institutional investor appetite. Nature-based investments are often limited to ticket sizes of less than US\$10 million of commitment¹⁶. ▶ Many co-benefits of NbS can only be realized over the long term to cover project costs¹⁷. This long payback period hinders the participation of private finance providers who often prioritize short-term returns.
<p style="text-align: center;">Legal and regulatory</p>	<ul style="list-style-type: none"> ▶ In developing countries, structural issues such as contested land ownership and land tenure issues can hinder implementation¹⁸. ▶ Lack of a regional binding policy and national development plans create an insufficient enabling environment to incentivize private capital allocation into NbS¹⁹. ▶ NbS often require a larger scale of land compared to gray infrastructure²⁰. Meanwhile, land acquisition often accounts for a significant share of upfront project costs, while public institutions generally do not offer loans for land acquisition expenditure²¹. As such, investments in NbS are often perceived as high-risk.

Source: Interviews, processed by authors

10. Dasgupta, P. (2021b). Final report - the economics of biodiversity: The Dasgupta Review. Retrieved from <https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review>

11. Toxopeus, H., & Polzin, F. (2021). Reviewing financing barriers and strategies for urban NbS. *J Environ Manage*, 289, 112371. <https://doi.org/10.1016/j.jenvman.2021.112371>

12. Anderson, C. C., Renaud, F. G., Hanscomb, S., Munro, K. E., Gonzalez-Ollauri, A., Thomson, C. S., Pouta, E., Soini, K., Loupis, M., Panga, D., & Stefanopoulou, M. (2021). Public Acceptance of NbS for Natural Hazard Risk Reduction: Survey Findings from Three Study Sites in Europe. *Frontiers in Environmental Science*, 9. <https://doi.org/10.3389/fenvs.2021.678938>

13. Schmalzbauer, A., & HWWI. (2018). Barriers and success factors for effectively co-creating NbS for urban regeneration. Retrieved from https://clevercities.eu/fileadmin/user_upload/Resources/D1.1_Theme_1_Barriers_success_factors_co-creation_HWWI_12.2018.pdf

14. Dasgupta, P. (2021b). Final report - the economics of biodiversity: The Dasgupta Review. Retrieved from <https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review>

Conditions that can accelerate the adoption of NbS

Reflecting upon these challenges, the interviewees raised several enabling conditions that can accelerate the adoption of NbS. Three conditions stand out:

1 Appointing a neutral convener to mediate multi-stakeholder platforms

Interviewees also stressed the importance of having neutral organizations, such as NGOs that convene and mediate multi-stakeholder platforms in landscapes to shift from isolated NbS projects to coordinated initiatives. Businesses can thus benefit from grounding their strategies in a landscape approach, engaging and investing in landscape initiatives, and implementing NbS within a landscape context. Notable examples of multi-stakeholder platforms, such as the Governors' Climate and Forests Task Force (GCFTF), and the Indonesian Sustainable Districts Association (LTKL).

2 Adopting impact measurement methodologies

To address the challenge in impact measurement, the availability of tools and methodologies to assess the impacts of NbS projects is crucial. Integration of technology, such as [WRI's Global Forest Watch](#) that uses geospatial information systems can help with planning, monitoring, verification, and reporting of the impacts of NbS. Advanced technologies facilitate efficient decision-making by providing real-time data and insights into project performance and scalability. Additionally, platforms such as [LandScale](#), which is co-led by Rainforest Alliance and Conservation International, can be used to assess and validate the impacts of landscape initiatives.

3 Leveraging local partnerships at a landscape scale

Interviewees also highlighted the importance of leveraging local partnerships for effective NbS implementation, particularly at a landscape scale. Engaging local governments, smallholders, local NGOs, and domestic companies through partnership and governance processes that effectively delineate roles and responsibilities, can strengthen monitoring practices and foster a shared understanding of impact measurement. Providing targeted training and technical assistance empowers all parties to adopt industry best practices. This includes establishing robust control and monitoring mechanisms to ensure accountability and build trust among stakeholders in managing NbS initiatives.

15. <https://www.epicfinance.com/news/new-report-conservation-finance-2021-an-unfolding-opportunity/>

16. PwC. (2023). Accelerating Finance for Nature. <https://www.pwc.com/gx/en/nature-and-biodiversity/nature-fin-accelerator-mode.pdf>

17. Terraformation. (2022). Financing Forests How to Unlock Capital for Large-Scale Restoration. Retrieved from: <https://www.terraformation.com/blog/funding-opportunity-native-forest-restoration>

18. https://www.cifor-icraf.org/publications/pdf_files/FTA/WPapers/FTA-WP-7.pdf

19. Terraformation. (2022). Financing Forests: How to Unlock Capital for Large-Scale Restoration. Retrieved from: <https://www.terraformation.com/blog/funding-opportunity-native-forest-restoration>

20. Ershad Sarabi, S., Han, Q., L. Romme, A. G., de Vries, B., & Wendling, L. (2019). Key enablers of and barriers to the uptake and implementation of NbS in urban settings: A review. *Resources*, 8(3), 121.

21. Dasgupta, P. (2021b). Final report - the economics of biodiversity: The Dasgupta Review. Retrieved from <https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review>

**Companies and
states disclosed**

309

**landscape engagements
through CDP in 2023**

Financial institutions have a pivotal role to play in scaling the impact of NbS. By identifying existing landscape initiatives and engaging with clients and investees on their landscape engagements, financial institutions can incentivize company's action to achieve shared landscape goals that include addressing harms to nature (such as deforestation) and implementing solutions like NbS.

CDP data shows that nearly 50% out of the 309 landscape engagements disclosed through CDP in 2023 did not meet key criteria (see discussion paper on [Assessing the Credibility of Disclosed Corporate Engagements in Landscape and Jurisdictional Approaches](#)). **Many of the landscape initiatives in which companies have disclosed engagements are located in Indonesia, Brazil, and Malaysia, countries with high dependencies on forest-risk commodities. There is significant potential, both globally and in Asia specifically, for companies to invest in existing initiatives as well as support multi-stakeholder platforms and processes that can evolve into landscape initiatives** (see [further data insights and an interactive map of identified landscape initiatives across the globe](#))

By incorporating landscape approaches into their investment strategies and encouraging clients and investees to invest in landscape initiatives and high-quality NbS, financial institutions can not only work towards managing their own environmental risks but can also unlock new potential revenue streams. This suggests a substantial opportunity for these institutions to support the expansion and effectiveness of landscape initiatives and of NbS writ large.

High-quality NbS through a landscape approach

The transition to a net-zero and nature-positive world requires investments in conservation and restoration in addition to shifts in corporate operations to mitigate activities that contribute to nature loss, such as deforestation.

NbS are critical interventions in this transition, often implemented through small-scale projects. When NbS are embedded within a landscape strategy, their impacts are maximized through consideration of the broader landscape area, as well as the multi-stakeholder processes and alignment that are the cornerstone of landscape approaches²². Research indicates that landscape-scale interventions can be more cost-effective²³ and essential for addressing environmental challenges as they cover a wider range of ecosystem services by leveraging the diversity of natural ecosystems²⁴. A landscape approach can, for example, connect and harmonize multiple business-driven NbS across a given landscape or jurisdiction, helping to ensure relevance and effectiveness in addressing unique landscape needs. This can ultimately minimize concerns over integrity, such as leakage (environmental degradation shifting to another location), project reversals, and lack of additionality, and deliver positive impacts at scale.

22. https://cdn.cdp.net/cdp-production/cms/reports/documents/000/007/287/original/Assessing_the_Credibility_of_Disclosed_Corporate_Engagements_in_Landscape_and_Jurisdictional_Approaches.pdf?1693473141

23. Hacking, J., Williams, B., Tind Nielsen, S. and Braña Varela, J. 2021. Beyond Carbon Credits: A Blueprint for High-Quality Interventions that Work for People, Nature and Climate. WWF

24. <https://royalsocietypublishing.org/doi/10.1098/rstb.2019.0120>

De-risking Investments for Nature

Below are selected examples of how de-risking mechanisms accelerate adoption of NbS.



Insurers have paid out over US\$300 billion globally for storm damages, a figure expected to increase 10x in the next decade

Parametric insurance offers a more agile solution by triggering payouts based on predefined climate events, thus accelerating post-disaster response

Parametric Insurance

Climate change is significantly increasing insured losses and premiums for corporations, necessitating innovative risk management solutions to keep assets insurable. Traditionally seen as a financial safeguard, insurance can also protect natural ecosystems and enhance ecological resilience against extreme weather events and seismic hazards. Over the past decade, insurers have paid out over US\$300 billion²⁵ globally for storm damages, a figure expected to increase tenfold in the next decade²⁶.

While conventional insurance compensates for losses, the claims settlement process can be lengthy due to time-consuming damage assessments.²⁷ In contrast, parametric insurance offers a more agile solution by triggering payouts based on predefined climate events, thus accelerating post-disaster response. Insurance coverage for ecosystem restoration can de-risk projects and attract financing for NbS by assuring investors²⁸. For instance, a mangrove insurance product linked to storm wind intensity can expedite disaster recovery efforts for coastal communities²⁹, with estimated restoration costs underpinning insurance premium calculations³⁰.

Parametric insurance provides a tailored risk management solution for individual consumers, considering their specific risk exposure, financial capacity, and regulatory framework³¹. Its development involves several key components:

- (i) identifying relevant climate parameters;
- (ii) quantifying potential financial impacts;
- (iii) defining insured assets, their location, and coverage periods;
- (iv) creating an insurance structure linking the index to financial payouts;
- (v) ensuring independent third-party data availability;
- (vi) developing models to estimate appropriate payouts; and
- (vii) evaluating the effectiveness of reducing climate-related risk exposure³².

25. International Finance Corporation. 2016. 'Innovative Insurance to Manage Climate Risks'

26. Conservation International. Green-gray infrastructure. Available at: <https://www.conservation.org/projects/green-gray-infrastructure>

27. <https://seads.adb.org/solutions/how-innovative-insurance-product-can-protect-coral-reefs#:~:text=Parametric%20insurance&text=It%20allows%20immediate%20payouts%20when,of%20coral%20reefs%20post%20damage>.

28. ADB. (2022). Role of Insurance in Protecting Marine Coastal Ecosystems in Asia and the Pacific. <https://www.adb.org/sites/default/files/publication/829001/insurance-protecting-marine-coastal-ecosystems.pdf>

29. Beck, M. W., N. Heck, S. Narayan, P. Menéndez, S. Torres-Ortega, I. J. Losada, M. Way, M. Rogers, L. McFarlane-Connelly. 2020. "Reducing Caribbean Risk: Opportunities for Cost-Effective Mangrove Restoration and Insurance." The Nature Conservancy, Arlington, VA. https://www-axa-com.cdn.axa-contento-118412.eu/www-axa-com%2Ff83724d2-fcd0-4a41-bde9-e0330a501d07_tnc_mangrove+insurance_final+hi.pdf

30. *ibid*

31. <https://corporatesolutions.swissre.com/dam/jcr:0cd24f12-ebfb-425a-ab42-0187c241bf4a/2023-01-corso-guide-of-parametric-insurance.pdf>

32. *ibid*

Coral reef insurance potentially preventing **50%** loss of coral reefs



Substantial crop losses of US\$49 billion in Asia underscoring the region's vulnerability to extreme weather

The success of parametric insurance depends on the availability of independent data on climate event conditions shortly after occurrence³³ and technical knowledge to price the loss of nature and its protective effects on assets³⁴. For example, Willis Towers Watson (WTW), a British-American insurance company has adopted AXA XL's pioneering coral reef insurance model. In 2022, WTW launched an insurance product for The Nature Conservancy covering 555,137 square km³⁵ of coral reefs across eight Hawaiian Islands, which are crucial to Hawaii's tourism-dependent economy valued at US\$1.2 billion³⁶. This policy, with a maximum payout of US\$2 million, provides rapid responses for coral reef restoration following hurricanes with wind speeds of 50 knots³⁷, potentially preventing up to 50% loss of coral reefs³⁸. By supporting ecosystem restoration, WTW mitigates climate change risks and demonstrates insurance market innovation.

A study by the FAO highlights substantial crop losses of US\$49 billion in Asia, the highest among all regions, underscoring the region's vulnerability to extreme weather events³⁹. Parametric insurance offers a promising solution to protect farmers from these risks. Successful pilot projects, such as one involving 122 insured rice farmers in Indonesia, demonstrate its potential to increase farmers' income⁴⁰. However, widespread adoption requires accurate risk assessment and affordable premiums for farmers.

Insurance underwriters should prioritize incorporating the value of vital ecosystems into their portfolios⁴¹. Collaborating with leading companies and government bodies to develop pilot projects can effectively showcase the role of green infrastructure in bolstering business resilience. Protecting natural ecosystems is no longer just an environmental concern but a financial necessity.



33. <https://blogs.adb.org/blog/here-s-how-better-crop-insurance-can-help-asia-s-farmers-survive-climate-change>

34. <https://www.earthsecurity.org/reports/insurance-underwriting-with-nature-how-mangroves-can-transform-the-climate-strategy-of-companies-cities-and-re-insurers>

35. https://www.nature.org/content/dam/tnc/nature/en/documents/2024_Hawaii-Reef-Insurance-fact-sheet.pdf

36. *ibid*

37. <https://www.wtwco.com/en-id/news/2022/11/wtw-and-the-nature-conservancy-launch-first-ever-coral-reef-insurance-policy-in-the-us>

38. https://www.nature.org/content/dam/tnc/nature/en/documents/2024_Hawaii-Reef-Insurance-fact-sheet.pdf

39. FAO. (2021). The impact of disasters and crises on agriculture and food security. <https://openknowledge.fao.org/server/api/core/bitstreams/30c0d98d-1c21-48ef-b5d9-8d988e6fa6f2/content>

40. Silaban, B., et al. (2022). The impact of rice farm insurance on the income of farmers in Indonesia. <http://dx.doi.org/10.17358/jma.19.1.59>

41. <https://www.earthsecurity.org/reports/insurance-underwriting-with-nature-how-mangroves-can-transform-the-climate-strategy-of-companies-cities-and-re-insurers>

Bank Green Guarantee

Asian banks have demonstrated a slower adoption of NbS financing than their Global North counterparts. Several factors contribute to this disparity. The perceived risks associated with NbS, including high upfront costs, extended payback periods, and complex land acquisition processes, have deterred many banks from engaging in NbS financing. Additionally, challenges in risk assessment methodologies, regulatory constraints, and potential misalignment with their core business strategies have hindered adoption.

Nonetheless, nearly 30 Asian banks have recently demonstrated leadership on climate change and increasingly seem to recognize the climate-nature nexus⁴². To accelerate nature-based financing, these banks are exploring innovative instruments, such as sustainability-linked bonds and sustainability-linked loans, for instance, UOB and Enterprise Singapore's sustainability-linked financing scheme. This scheme rewards small and medium enterprises with preferential loan rates for achieving pre-agreed sustainability performance targets, including CDP Forests scores⁴³.



42. <https://www.unepfi.org/net-zero-banking/members/>

43. <https://www.uobgroup.com/uobgroup/newsroom/2024/uob-launches-sage-programme.page?path=data/uobgroup/2024/301&cr=segment>



Bank guarantees can encourage investments in sustainable landscapes by reducing risks for financial institutions, especially through leveraging blended finance approaches that combine public and philanthropic capital with private capital to mobilize additional resources.

Funding and Equipping Smallholders in China⁴⁴

A notable example is the partnership established in 2020 between Rabobank and AGRI3 Fund, a blended finance fund, which utilized a pari passu guarantee to help mobilize a 3-year US\$10 million bank guarantee program for Chongqing Agricultural Chain Corporation Ltd (CACC). With this guarantee, Rabobank provided a loan to CACC that supports a chili pepper farming project the company developed to significantly boost farmer incomes, increase chili production, and support chili sales while training farmers in sustainable cultivation practices. Global demand for chili pepper products has driven a surge in its cultivation, particularly in China's southwest provinces, yet many small-scale farmers in these regions are not able to fully benefit from this growth. The project seeks to address this, also incorporating guarantees from CACC in the form of offtake agreements with farmers.

To further enhance impact and address environmental and social risks, the AGRI3 Technical Assistance Facility (TAF) supports the project through risk management and impact monitoring. The project's success includes a 20% increase in farmers' income, 533 hectares of chili cultivation and 1,200 farmers trained in sustainable practices.



Pari passu guarantees de-risk investments and encourage lending for sustainable agricultural practices

Climate-smart Agriculture in India⁴⁵

Another example is a program in India, a country with 21% forest cover that is crucial for 130 million smallholders. Rabo Foundation (a philanthropic arm of Rabobank), in partnership with USAID, established a 10-year US\$15 million bank guarantee program that helps smallholder farmers switch to climate-smart agriculture⁴⁶ and implement NbS such as agroforestry practices. The program addresses reluctance of financial institutions to finance the transition to climate-smart agriculture due to perceived high risks and long payback periods. Through pari passu guarantees, the program de-risks investments and encourages firms to provide loans that help smallholders with such solutions. Through partnerships with agricultural financing organizations, namely Ananya Finance and Samunnati Financial Intermediation, the program successfully expanded access to capital for SMEs and cooperatives seeking to adopt climate-smart agricultural practices.

These examples highlight the importance and immense potential for partnerships across capital allocators that blend capital and de-risk investments through guarantees to enable the transition to sustainable landscapes.

44. <https://agri3.com/deal/chilli-pepper-farming-china/>

45. <https://www.rabobank.com/about-us/rabofoundation/project/011325255/case-study-bank-guarantee-stimulates-climate-smart-agriculture-in-india>

46. <https://www.oecd.org/dac/financing-sustainable-development/blended-finance-principles/documents/Blended-Finance-in-Agriculture.pdf>

VC investments in ocean management and biodiversity conservation doubled from 2021 to 2022

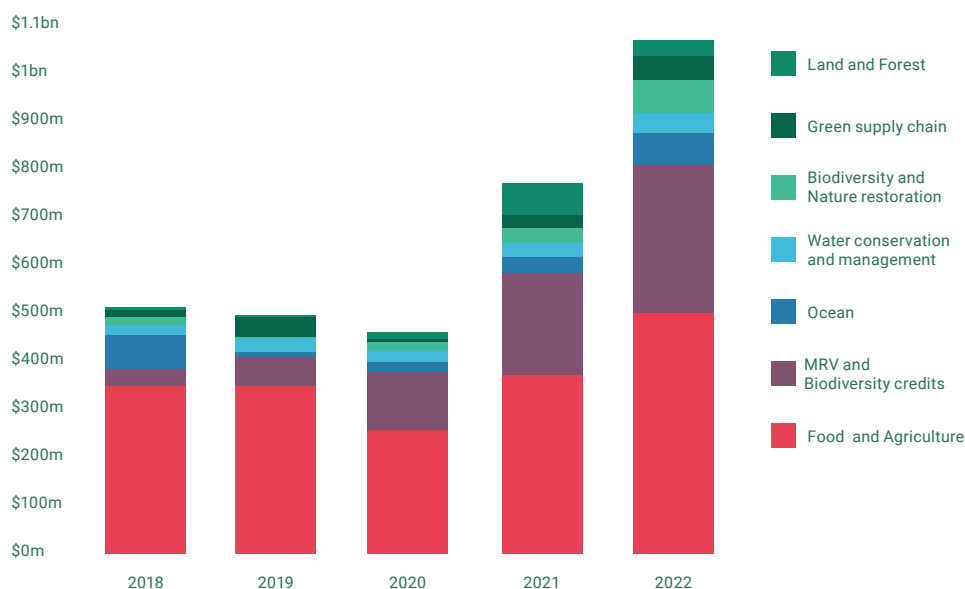
Climate tech received **26x** more VC funding than nature-related tech, securing US\$41 billion compared to the latter's US\$1.56 billion

Venture Capital in Nature Tech

Venture capital (VC) firms are increasingly interested in biodiversity conservation⁴⁷, recognizing its market potential. However, securing VC funding for nature-related tech start-ups is challenging due to perceived risks with early-stage technologies⁴⁸. Despite this, the high-growth and disruptive nature of these solutions can align with VC goals, offering significant environmental and financial returns.

In 2022, nature-related tech received only US\$1.56 billion in VC funding, compared to US\$41 billion for climate tech⁴⁹. Within this sector, funding focuses on biodiversity protection, ecosystem restoration, regenerative agriculture, and water purification, with the food and agriculture sector receiving the largest share as shown in Figure 2 below⁵⁰. Global interest in nature-related tech is growing, with investments in ocean management and biodiversity conservation doubling from 2021 to 2022 (see Figure 2)⁵¹. The US dominates this market, capturing 78% of global VC funding between 2018-2022, while Asia's contribution was only US\$0.4 billion⁵², reflecting its younger start-up ecosystem.

Figure 2. VC funding from Pre-seed to Series B per category (in USD)



Source: Crunchbase and Serena (2023)

47. Woolnough, T. (2023, September 14). FEATURE: Venture capital starts to bet big on biodiversity. Carbon Pulse. <https://carbon-pulse.com/222129/>

48. Woolnough, T. (2023) Feature: Venture capital starts to Bet Big on biodiversity * Carbon pulse, Carbon Pulse. <https://carbon-pulse.com/222129/>

49. <https://nature4climate.wpenginepowered.com/wp-content/uploads/2023/10/N4C-The-state-of-nature-tech-final.pdf>

50. ibid

51. ibid

52. <https://nature4climate.wpenginepowered.com/wp-content/uploads/2023/10/N4C-The-state-of-nature-tech-final.pdf>

A notable example is Koltiva, an Indonesian agricultural tech start-up, which received a seven-figure Series A investment led by AC Ventures (a Southeast Asian VC firm with over US\$500 million in assets under management) with participation from Silverstrand Capital, Planet Rise, Development Finance Asia, Blue 7, and The Meloy Fund⁵³. Koltiva's platform tracks food products from farm to table, enhancing supply chain transparency. The investment expanded Koltiva's tools, including KoltiPay (a fintech platform to provide smallholder farmers with cashless payments, crop insurance, and microcredit access) and KoltiTrade (a marketplace of agricultural inputs and connect farmers directly to premium markets)⁵⁴. Koltiva operates under stringent regulations such as the EU's Deforestation Regulation and yet has now grown to a presence in 52 countries, over 1 million producers and over 6,800 businesses on its platform⁵⁵. Koltiva also collaborates with the Indonesian Ministry of Agriculture on a project to boost horticulture productivity in 13 districts through the Horticulture Development in Dryland Areas Project (HDDAP) from 2024 to 2028⁵⁶, funded by ADB (Asian Development Bank) and IFAD (International Fund for Agricultural Development).

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The case demonstrates the power of VC to enable nature tech that advances NbS implementation

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The case demonstrates the power of VC to enable nature tech to advance NbS implementation. By fostering connections between smallholders, businesses, and government, nature tech can accelerate the adoption of data-driven approaches, thereby improving monitoring and transparency of NbS outcomes and adaptation to specific regional challenges, ultimately helping to de-risk further investments.



53. <https://www.koltiva.com/post/top-sustainable-farming-and-supply-chain-traceability-startup-koltiva-raises-series-a#:~:text=Indonesia%2Dbased%20sustainable%20farming%20and,existing%20investor%20The%20Meloy%20Fund>.

54. <https://www.koltiva.com/post/press-release>

55. <https://www.koltiva.com/post/top-sustainable-farming-and-supply-chain-traceability-startup-koltiva-raises-series-a#:~:text=Indonesia%2Dbased%20sustainable%20farming%20and,existing%20investor%20The%20Meloy%20Fund>.

56. <https://www.koltiva.com/post/ministry-of-agriculture-with-koltiva-enhances-horticulture-development-hddap>

The Journey to Accelerating NbS

It's important to acknowledge that grants remain important catalysts for investments in nature. Partnerships for Forests (P4F), the world's biggest tropical forestry business incubation was funded by the UK Foreign, Commonwealth and Development Office. P4F provided grants and technical assistance to ForestWise to develop a business model centred on the illipe nut, including establishing ForestWise as a business entity, developing market channels, and securing investments. ForestWise incentivizes forest protection by offering local communities who collect illipe nuts from the forest floor—a process that minimally impacts the ecosystem—a significantly higher income compared to traditional activities. Through the project, these high value nuts have attracted customers largely in the personal care industry, such as LUSH, Jan Dekker, OnScent, Faravelli Group and Alfa Chemicals⁵⁷. With P4F's support, ForestWise expanded operations to over 20 countries and in 2024 secured US\$450,000 investment from Terratai, a venture capital firm specializing in NbS⁵⁸. The case demonstrates how grant-dependent incubation can enable commercially viable nature-based business models.

NbS projects with high potential remain undercapitalized

Nonetheless, US\$210 billion of additional private capital per year is needed to meet global goals by 2050⁵⁹. Grant funding alone cannot close the funding gap. The above case studies, while non-exhaustive, reflect the state of maturity of NbS financing – financial institutions have begun to leverage de-risking instruments, but large-scale institutional finance remains elusive. While a range of de-risking instruments exist to facilitate the growth of NbS projects, a critical dearth of innovative financing instruments hinders the transition from grant-dependent incubation to commercially viable projects⁶⁰. Consequently, NbS projects with high potential remain undercapitalized.

By identifying the specific stages at which the opportunities emerge within NbS, financial institutions can better anticipate potential returns and cash flows. Figure 3 below illustrates these stages and highlights potential entry points for financial institutions to catalyse NbS over the long term.

This strategic intervention aligns with the growing demands for sustainable business practices. Global efforts to halt deforestation and other drivers of nature loss, as evident in the Glasgow Leaders Declaration on Forests and Land Use and the Global Biodiversity Framework, present a significant opportunity for both corporations and financial institutions. Embracing a nature-positive economy unlocks new business models, with an estimated value of US\$10 trillion annually by 2030⁶¹. NbS, such as ecosystem restoration, are central to this transition.

57. <https://www.forestwise.earth/>

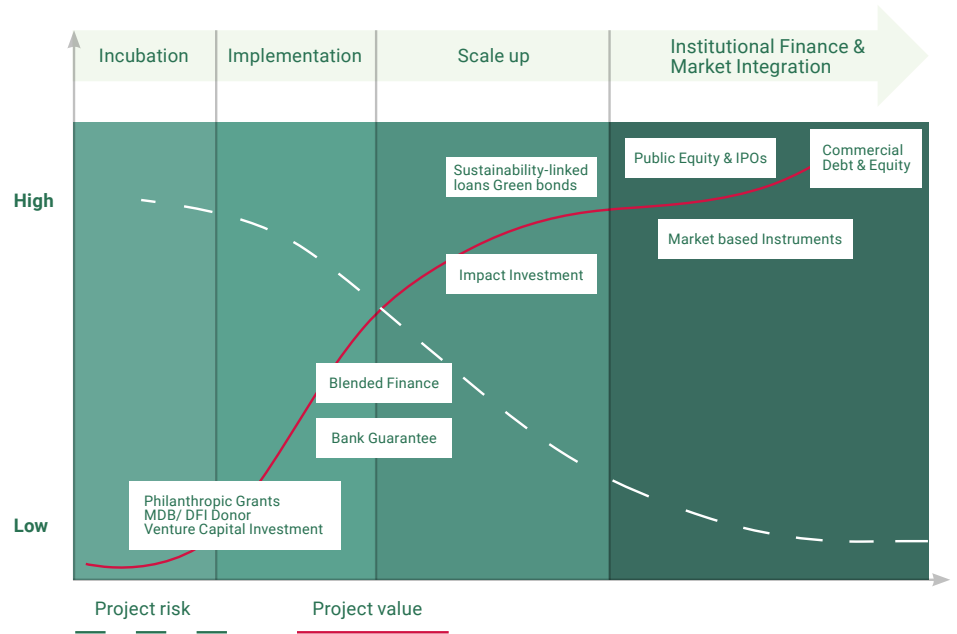
58. <https://carbon-pulse.com/286354/>

59. https://wedocs.unep.org/bitstream/handle/20.500.11822/44279/state_finance_nature_2023_summary.pdf?sequence=28

60. CPIC. (2023). Building A Capital Continuum for Nature-Positive Investments. https://www.cpicfinance.com/wp-content/uploads/2023/10/CPIC-report_Building-a-capital-continuum-for-nature-positive-investments.pdf

61. <https://www.weforum.org/publications/new-nature-economy-report-series/>

Figure 3. Stages of Nature-based Financing



Source: Adapted from CPIC (2023)



Of 147 Asian financial institutions disclosing through CDP, only

14%

conducted forest and water-related opportunities and risks assessment on their portfolio

Yet, in addition to financial institutions' hesitation to fully embrace NbS financing, most have not taken steps often portrayed as the beginning of a nature journey, including understanding portfolio risks and disclosing transparently. Failure to assess portfolio exposure to nature-related risks hinders the development of robust strategies and identification of investment opportunities. Of the 147 Asian financial institutions disclosing through CDP, only 25% considered forest and water-related information about their clients or investees as part of due diligence and/or risk assessment processes. Further, a mere 14% conducted forest and water-related risk and opportunity assessments on their portfolios in 2023.

A thorough assessment of nature-related dependencies, impacts, risks and opportunities (DIROs) should be the cornerstone of any NbS financing strategy. By understanding their DIROs, financial institutions can make informed decisions and drive product innovation in this critical space. Failing to prioritize this assessment exposes institutions to nature-related risks and jeopardizes the attainment of sustainability commitments, such as net-zero targets.

Call to action

Based on desk research and stakeholder interviews, the recommendations for financial institutions are laid out below:

1 Assess exposure to nature-related risks in investment and lending portfolios

Use available tools and data sources, including data disclosed through CDP, to understand portfolio exposure to nature-related dependencies and impacts and the related risks and opportunities. This includes understanding physical and transition risks and subsequently establishing robust risk management frameworks integrated into long-term strategies and governance processes.

2 Update internal processes and policies that prioritise nature-related impacts

Implement robust due diligence and exclusion policies avoiding harm to nature and supporting nature conservation. For example, leading financial institutions have adopted policies to avoid deforestation and avoid financing companies operating in IUCN protected areas and Ramsar sites⁶².

3 Set financing targets for supporting nature

Establish time-bound financing goals to support nature conservation and biodiversity protection. Utilize guidances on nature target setting for financial institutions, such as the [Principles for Responsible Banking's Nature Target Setting Guidance](#), and the [Finance for Biodiversity Foundation's Nature Target Setting Framework for Asset Managers and Asset Owners](#).

4 Leverage the existing financial instruments to tap into new opportunities

Explore existing financial instruments for scaling up NbS financing and adoption of landscape approaches. Develop innovative financial products incorporating available data, such as using CDP data on the nature-related actions of corporates, including their landscape action, as a criterion to provide sustainability-linked loans and drive sustainable supply chain financing schemes;

5 Design the blueprints for blended finance

Create blended finance schemes to reduce risks, attract investment, and improve liquidity⁶³. Utilize public funding for early-stage project development and risk mitigation⁶⁴. Financing from multilateral development banks, national development banks, and other grant or concessional capital can help mitigate project financing risks, enhance their quality and safety ratings, and attract additional, more affordable commercial financing⁶⁵.

6 Strengthen policy alignment

Actively engage with sovereign and local governments, as well as civil society, to understand and comply with nature-related regulations. Align investment strategies with regulatory frameworks of key markets, including regulation such as the EU Deforestation Regulation, and the Global Biodiversity Framework⁶⁶.

62. Beetz, E., Kleppe, A., Blanchard, B., Fantini, L., Ivanova, R., Schembier, M., & Grace, C. (2023, September 11). For Financial Institutions, Nature Is the Next Frontier. BCG Global. <https://www.bcg.com/publications/2023/why-building-a-nature-strategy-is-pivotal-for-financial-institutions-to-evolve>

63. Löfqvist, S., Garrett, R. D., & Ghazoul, J. (2023). Incentives and barriers to private finance for forest and landscape restoration. *Nature Ecology & Evolution*, 7(5), 707–715. <https://doi.org/10.1038/s41559-023-02037-5>

64. *ibid*

65. <https://www.unescap.org/sites/default/d8files/event-documents/CMPPF4-3%20Bridging%20gap%20in%20sustainable%20finance-Eng.pdf>

66. <https://www.oliverwyman.com/our-expertise/insights/2022/sep/how-south-east-asian-banks-can-catch-up-on-climate.html>

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